APRIL/MAY 2023

FMB21/CMB21 – MICROBIAL PHYSIOLOGY

Shanmuga Industries Arts & Science College T.V.Malai

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What are the microelements required by micro organisms?
2. Define Lithotrophs.
3. What is freeze-drying?
4. Define pureculture.
5. What are Hyperthermophiles?
6. Define Facultative anaerobes.
7. What is Glycolysis?
8. Define Fermentation.
9. What is carboxysomes?
10. What is Photosynthesis?

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions

11. (a) Explain about the macro nutrients required for growth of micro organisms and their physiological functions.

Or

(b) Differentiate between active and passive transport mechanism.

12. (a) Explain about the method of cultivation of fungi and viruses.

Or

(b) List out the different types of culture media with suitable examples.

13. (a) Summarize the adaptations of various extremophiles to their natural habitats.

Or

(b) Differentiate between synchronous growth and Diauxic growth.

14. (a) Give a brief note on substrate level phosphorylation.

Or

(b) Discuss in detail about Alcholic fermentation with Illustration.

15. (a) Explain about the light reactions in oxygenic photosynthesis.

Or

(b) Explain about the biosynthesis of bacterial cell wall.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Classify the various nutritional types of microorganisms and Add a note on it.

17. Summarize about the various types of Pure culture techniques with a diagram.

18. Define Growth curve. Explain about the various phases of growth curve of a bacteria.

19. Draw the TCA cycle and explain it.

20. Explain about biosynthesis of amino acids with an example.

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